RELATIVE EFFECTIVENESS OF TWO TRAINING STRATEGIES IN DEVELOPING TEACHING COMPETENCE AND ATTITUDE TOWARDS TEACHING AMONG STUDENTS TEACHERS

(Unesco Sponsored Cooperative Research Project)
Application of Microteaching

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ABSTRACT

The major objective of the present study was to compare the relative effectiveness of two training strategies in developing teaching competence and attitude towards teaching among student teachers. The training strategies were: Observation-Demonstration-Practice (ODP) and Demonstration-Practice-Observation (DPO).

Pre-test post-test experimental design was used taking the sample of 32 B.Ed. students. Demonstration of video taped lesson on three teaching skills followed by practice in simulated situation and observation of real classroom teaching were used as the treatment.

Results indicate that both the training strategies were significantly effective in developing theoretical understanding of Microteaching, general teaching competence attained, and attitude towards teaching. However, only the training strategy ODP was found to be significantly effective in developing favourable attitude towards Microteaching among the B.Ed. students.

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SECTION I

THE PROBLEM AND ITS BACKGROUND

Introduction

The strength and sustenance of any educational system largely depends upon the quality of teachers. Effective, efficient and committed teachers are always needed to make education system effective. Obviously such teachers are not just born but they are trained and educated. A nation has to provide the right type of education for its teachers who are ultimately responsible for shaping its destiny. Teacher education programme attempts to meet this challenge. It is assumed that concept of teaching can be operationalised in terms of teaching behaviour patterns invariably related to the pupil achievement and change. It is further assumed that certain behaviour patterns can be developed in a prospective teacher to effect the desired educational outcomes. Once the teaching behaviour patterns are developed in the teacher, they are sustained and carried over to his assigned teaching position in the profession.

Student Teaching

Strong recommendation is usually made for developing a task oriented teacher education system. It is imperative that student teaching should be more realistic and suited to the actual classroom situation. The discrepancy between what is taught in teacher training institutions and what is practised by teacher, when they join their assigned teaching positions in the profession becomes conspicuous when actual classroom teaching is observed. Gage (1963) claimed that the holistic macro approach to research on teaching has failed, and that educators should adopt the methods used by scientists who tried to understand complex phenomena by breaking them into microelements. He maintained that for better understanding and investigation of the complexities of teaching-learning interactions, we should move from macro to micro situations. Microteaching is one of such innovations.

Microteaching - A Skill Based Teacher Training Technology

Microteaching was born out of the frustration of liberal arts graduates who felt that there was nothing they could possibly learn from teacher education (Allen and Ryan, 1969; Allen, 1966). The Stanford group which developed microteaching responded to a wider feeling of frustration and dissatisfaction the world over, by the public at large, educators and even teacher educators with the traditional models of teacher education (Joyce, 1975).

Microteaching is one of the most important recent innovations in teacher education programme which aims to modify teacher's behaviour according to the specified objectives. From its very origin, a lot of work done in this area establishes the effectiveness and importance of microteaching to improve the quality of teacher. A large number of education research findings prove that microteaching is an effective technique for the training of teachers in comparison to other techniques (Bell, 1968; Goodkind, 1968; Kallenback, 1969; Borg 1969; Berliner 1969; Young and Young, 1969; Shah, 1970; Chaudhasama, 1971; Wragg, 1971; Marker, 1972, Singh, 1974; Bhattacharya, 1974; Dosajh, 1974, Joshi, 1974; Abraham, 1974; Kathuria, 1976; Sharma, 1976; Sharma, 1977; Passi, 1977).

Microteaching is a specific teacher training technique through which the teacher trainee practices one teaching skill at a time in a small class with the help of feedback to improve the skill. Allen (1966) defined microteaching as a scaled down teaching encounter in class size and class time. The number of students generally vary from 5 to 10 and the duration of teaching ranges from 5 to 10 minutes. Buch (1974) has proposed a comprehensive definition. Microteaching for him is a teacher education technique which allows teachers to apply clearly defined teaching skills to carefully prepared lessons in planned series of 5-10 minutes encounters with a small group of real students.

Microteaching provides an opportunity to teacher trainee or experienced teacher to acquire new teaching skills and to refine old ones. It involves the following operations:

- the analysis of teaching skills in behavioural terms
- demonstration of the teaching skills on video tape or films or in normal classroom

- the trainee plans a short lesson in the subject of his interest in which he can use teaching skill
- the trainee teaches the lesson to a small group of student (5-10) which is video taped or audio taped
- feedback is provided to the student teacher by video taped or audio tape recorder who observes and analyses his lesson with the help of a supervisor
- the feedback and supervisor's remark provide an insight to the student teacher in the use of teaching skill. He plans the lesson in order to use the skill more efficiently second time
- the revised lesson is retaught to different but comparable groups
- feedback is again provided on the retaught lesson which is analysed with the help of the supervisor

Micro teaching is a training which requires student teachers to teach a single concept using a specified teaching skill to a smaller number of pupils in a short duration of time. Teaching is practised in terms of definable, observable, measurable and trainable teaching skills (Passi, 1976).

Teaching Skills

Teaching is a complex behaviour which can be analysed into specific teaching skills. A teaching skill is a small set of teacher behaviours which together achieve a specific teaching etc. Like any other behaviour, teaching behaviour can be modified. This requires a systematic analysis of what teaching is and what behaviours of teacher contribute to effective learning in the pupils. According to Allen (1970) teaching consists of acts or behaviours. This complex act of teaching can be broken down into simpler components making the learning task more manageable to prospective teaching. The entire process is based on an analytical approach, on which the microteaching approach rests. Such an approach to teacher training is important as it incorporates behaviourally definable teaching skills in the teaching behaviour repertoire of student teachers.

It would be quite helpful if teacher training institutions at all levels adopt a variety of simulating practices. It is necessary to emphasize that it will be definite an advantage if a student teacher is put through a series of simulated microteaching situations before he is pushed into actual classroom.

Video Instructional Materials

Microteaching applies an instructional system approach and principles of observational learning. In this technique mastery of specific teaching skill is attained with the help of observational learning or modelling. Modelling has played an important role in preparing trainees for their practice of teaching skills. The original rationale for the inclusion of modelling in micro-teaching as Allen & Ryan believe was quite pragmatic one. Skill learning was believed to be enhanced if trainees were able to view a demonstration of a particular teaching skill prior to their practice of that skill. In Bandura's conceptualization, learning by observation is said to occur principally through the informative function of modelling influences, and is governed by four component processess-attending, retention, motor reproduction and motivation.

Attending refers to the observer's selective perception of the significant features of the model, while retention refers to the maintenance in permanent memory of a symbolic form of the patterns which have been atended to in the model. According to Bandura it is an advanced capacity for symbolic codes allowing for the retention of large quantities of information in easily stored form. It is also this capacity to create symbols which serves to distinguish modelling or learning by observation from simple imitation.

Motor reproduction refers to the translation of symbolic representations into actions or their use as guides for actions whilst motivation refers to the rewardingness or nonrewardingness of enacting the modelled behaviours. Thus in Bandura's model the process of attending and retention refer to performance whilst motivation refers both to acquisition and to performance.

Video Instructional Material though not essential for the training of microteaching is an important and effective modelling technique. With the help of this technique boosting effect can be brought in the programme of teacher education. In this technique a trainee can observe video film on any particular teaching skill, use of its components and the mistakes which may have occurred during the lesson. In using this technique a trainee uses more than one sense organ. He is listening and observing at the same time and, therefore, it is more effective. As Bandura puts it, people rarely have to be compelled to watch television, whereas oral or written reports of the same activities would not hold their attention for long.

The Present Study

Most teacher educators subscribe to the position that good teacher preparation curricula should contain more than college courses and student teaching experiences. They agree that teacher trainees should be provided with a set of experiences that fall somewhere between learning about teaching and doing it in the field, that serves to bridge the gap between principles and practices (Conant, 1964; Cruickshank, 1971).

Many Teacher educators are of the opinion that student teachers should be provided with pre-student teaching laboratory experiences but nobody is able to propose any specific strategy or experiences that can be included and organised so as to enhance and enrich teacher education programme.

Use of recorded 'models' of master teachers demonstrating particular classroom interactions is an important element in the micro-teaching laboratory. There is abundant theoretical and empirical evidence which testifies to the wide range of learning situations and behavioural changes which take place as a result of observation and imitation. Instead of a general diffused observatory, the model 'enabled focussed' observation. The models are recorded and thus it is possible to observe again and again in a systematic manner, a wide variety of master teachers all of which facilitate more effective learning. It is interesting to note that modelling which was considered by many to be mechanistic and low level imitation process could be viewed also as involving high level cognitive processes. Providing one model only and directions to follow it produces imitation. Providing several models and creating a learning environment, which facilites evaluation and indepth decision making, could be described as a highly cognitive process (International Encyclopaedia of Education).

In the present study video film on teaching skills is used as a model. In addition, two more types of experiences - observation of school teachers in real classroom situation and practice of skills under simulation exercise are used. The sequence of these three types of experiences is varied to contrive two training strategies. According to the first strategy student teachers observe the school teachers in real classroom situation first then they observe video film on the particular skill followed by the practice of the skill under simulated condition. According the other strategy, the student teachers first observe the video film on a particular skill then they practice the skill under simulated condition then followed by observation of school teachers in real classroom situation. The research question is, which of the two training strategies is more effective in terms of (i) developing the theoretical understanding of microteaching, (ii) developing the teaching competence, (iii) developing the attitude towards teaching and (iv) reaction towards microteaching in student-teachers ?

The Problem

The problem for research may be stated as follows:

"Relative Effectiveness of Two Training Strategies in Developing Teaching Competence and Attitude Towards Teaching Among Student Teachers".

Objectives

In the light of above discussion the study was undertaken with the following objectives:

- To study and compare the effectiveness of training strategies: Observation-Demonstration-Practice (ODP) and Demonstration-Practice-Observation (DPO) in developing the theoretical under-standing of microteaching
- To study and compare the effectiveness of training strategies: Observation-Demonstration-Practice (ODP) and Demonstration-Practice-Observation (DPO) in developing the teaching competence
- To study and compare the effectiveness of training strategies: Observation-Demonstration-Practice (ODP) and Demonstration-Practice-Observation (DPO) in developing the attitude towards teaching
- To study and compare the effect of training strategies: Observation-Demonstration-Practice (ODP) and Demonstration-Practice-Observation (DPO) on the trainees reaction towards microteaching.

Hypotheses

- There is no significant difference between the theoretical understanding of microteaching of the two groups trained by ODP and DPO training strategies.

- There is no significant difference between the teaching competence of ODP and DPO groups
- There is no significant difference between the attitude towards teaching of ODP and DPO groups
- There is no significant difference between the reactions towards microteaching of the ODP and DPO groups.

SECTION II

METHODOLOGY

This section presents the methodology followed to carryout the investigation. Sample, design, tools, procedures of data collection and statistical techniques used for analysing the data are discussed.

Sample

The sample of 32 B.Ed. students of School of Education, Devi Ahilya Vishwa Vidyalaya, Indore (India) were selected randomly. The sample was divided into two groups, i.e. Experimental Group 1 (E1) and Experimental Group 2 (E2) consisting of 17 B.Ed. students was given the treatment of Observation-Demonstration-Practice (ODP) training strategy and Group E2 consisting of 15 B.Ed. students was given the treatment of Demonstration-Practice-Observation (DPO) training strategy.

Design

The study is experimental in nature and the Pre-test-Post-test Design was used. Both the groups were administered Attitude Towards Teaching Inventory (ATTI) before the treatment. The groups were then oriented about the Microteaching through lecture, discussion and were shown a film on Microteaching. This was followed by administration of Microteaching Theory Check-up (MTC) and Attitude Towards Microteaching Scale (ATMS). After testing, the E_1 Group was treated with ODP training strategy and Group E_2 with DPO training strategy. The experimental treatment was followed by the administration of ATTI, MTC and ATMS.

Lastly, each of the subjects of E_1 and E_2 Groups was observed on Baroda General Teaching Competence Scale (BGTC) on two lessons of the method subjects. The schematic representation of the research design is presented in Table (2.1)

TABLE 2.1 : SCHEMATIC REPRESENTATION OF RESEARCH DESIGN

Activity	E_1 (N= 17)	E_2 (N = 15)	Approximate Time
Formation of Groups	Selection of 32 B.Ed. students and formation of groups		2 hrs.
Pre-testing-1	Administration of Attitude towards Teaching Inventory		2 hrs.
Orientation	Orientation in Micro-teaching by Lecture-discussion and showing film on Microteaching		2 hrs. each day 2 days
Pre-testing-II	Administration of Microteaching Theory Check-up and Attitude Towards Micro-teaching Scale		3 hrs.

Treatment	Observation of lessons of school teachers (6 lessons in 6 days)	Demonstration of Video taped lessons of 3 skills (4 lessons of each teaching skill)	
Training Strategies	Demonstration of video taped lessons of 3 teaching skills (4 lessons of each skill) 3x3 = 9 days	Practice of 3 teaching skills in hexas (2 teach & 2 reteach for each skill) 4x3 = 12 lessons	21 days
	Practice of 3 skills in hexas (2 teach & 2 reteach for each skill) 4x3 = 12 lessons	Observation of lessons of school teachers (6 lessons in 6 days)	
Post-testing-I	Administration of Microteaching Theory Check-up and Attitude Towards Microteaching Scale		2 hrs.
Post-testing-II	Administration of Attitude Towards Teaching Inventory and Observation of 2 lessons of each subject by using BGTC Scale		10 days

Tools

The tools used were (i) Attitude Towards Teaching Inventory, (ii) Microteaching Theory Check-up, (iii) Attitude Towards Microteaching Scale and (iv) Baroda General Teaching Competence Scale. The detailed discription of each tool follows:

Attitude Towards Teaching Inventory (AITT)

Attitude inventory was developed to assess the attitude of student teachers towards teaching. Keeping in mind the different aspects of classroom teaching, the first draft of the attitude inventory was prepared which included 47 items. Each item was to be rated on a five point scale ranging from strongly agree to strongly disagree. The inventory was tried out on a group of 50 B.Ed. students. To know the discriminating power of each item, the item analysis was done. The upper 27% and lower 27% of 50 B.Ed. students were sorted out. For each item the 't' value was found out between the mean score of the respective item. It was noticed that 't' values for 25 items out of 47 were significant at .05 level. These items were retained for the final draft. For each item the same scale of agreement was used. The test-retest reliability coefficient of the inventory was found to be .87. The minimum and maximum score of a subject on this inventory can be 25 and 125 respectively.

Attitude Towards Microteaching Scale (ATMS)

In order to measure the attitude of B.Ed. students toward Microteaching, Attitude Towards Microteaching Scale developed by Sharma (1976) was used. This tool is an opinionnaire consisting of seven dimensions namely (i) Microteaching technique in general, (ii) teacher effectiveness, (iii) organisation, (iv) provision of feedback, (v) content, (vi) skill undertaken for study, and (vii) supervision. The scale has 32 items to be rated on a five point scale starting with 'not at all' to 'very much'. The range of the scores for this tool is 41 to 205.

Microteaching Theory Check-up (MTC)

A theory check up was developed to assess the theoretical understanding of B.Ed. students in Microteaching. The tool consists of four parts A,B,C and D. Part A contains multiple choice-type items, Part B 'Yes' or 'No' type, Part C and Part D short answer type questions. The minimum and maximum scores on this tool can be 0 and 46 respectively.

Baroda General Training Competence Scale (BGTC)

This tool was developed at the Centre of Advanced Study in Education, Baroda (India), for measuring the general teaching competence of teacher in classroom performance. It has 21 items which relate to 21 teaching skills grouped under five broad categories namely Planning (Pre-instructional), Presentation

(Instructional), Closing, Evaluation and Managerial. For each item, an eight point rating scale is used. The point zero show 'not at all' and point 8 'very much' competence. Scores on BGTC range from zero to 147.

Experimental Treatment and Data Collection

The Group E_1 was treated with the training strategy of Observation-Demonstration-Practice (ODP) and Group E_2 was treated with the other training strategy of Demonstration-Practice-Observation (DPO). Both the groups were administered Attitude Towards Teaching Inventory at the pretest stage. E_1 and E_2 groups were oriented in Microteaching through lecture, discussion and showing of film on Microteaching. Both the groups were then administered Microteaching Scale. Group E_1 was given the treatment through ODP and Group E_2 was treated with DPO. Subjects of both ODP and DPO groups observed 6 lessons each in 6 days - one lesson per day of school teachers in real school situation. They viewed 6 demonstration video lessons on 3 skills, and two lessons on each teaching skill in six days and practised six microlessons under simulated conditions on selected three skills. After the treatment, the student teachers, of E_1 and E_2 were administered with Microteaching Theory Check-up, Attitude Towards Microteaching Scale and Attitude Towards Teaching Inventory. During the last phase of data collection, the two lessons of each subject were observed by teacher educators using Baroda General Teaching Competence Scale under real school situations.

SECTION III

RESULTS AND DISCUSSION

This section presents the results and discussion thereon according the objectives listed in this study.

A. Comparison of the effectiveness of training Strategies-Observation-Demonstration-Practice and Demonstration-Practice-Observation in Developing understanding of Microteaching.

In order to realise this objective the data obtained by the administration of Microteaching-Theory Check-up at pre-treatment and post-treatment stages were used. The pre-treatment theory score was used as covariate and post-treatment theory scores was used as dependent variable for the Analysis of Covariance (ANCOVA). The summary of ANCOVA is presented in the following table.

TABLE 3.1 SUMMARY OF ANCOVA FOR THEORETICAL UNDERSTANDING IN MICROTEACHING

Source of Variance	df	$S.S_{YX}$	$M.S._{YX}$	F.Value	Significance
Between	1	16.64	16.64	1.28	Not Significant
Within	29	376.27	12.97		
Total	30	392.92			

Table 3.1 shows that F value of 1.28 is not significant even at .05 level. It means the adjusted means of group E1(OPD) and E2 (DPO) do not vary with each other significantly. Therefore it can be stated that treatment given to Group E1 and E2 has not produced differential effectiveness in terms of the theoretical understanding of B.Ed students in Microteaching. In the light of this result it may be safely concluded that there is no significant difference between the adjusted means of microteaching theory scores of E1 (OPD) and E2 (DPO) when pre-treatment Microteaching theory attainment is taken as a covariate.

The correlated 't' value between the pre-treatment theory attainment and post-treatment theory attainment was established. The results obtained are shown in Table 3.2.

TABLE 3.2 CORRELATED 't' VALUE FOR THEORETICAL UNDERSTANDING

Variable	Group E1	Group E2
1. Mean of pre-test	27.23	28.95
2. Mean of post-test	29.17	33.13
3. Correlation between pre-test and post-test scores	0.85	0.83
4. S,E of pre-test scores	1.77	1.83
5. S.E. of post-test	1.45	1.206
6. Value of Correlated 't'	2.097*	3.36**

* Significant at .05 level
** Significant at .01 level

The 't' values of 2.09 and 3.36 are significant at .05 and .01 level respectively. This result shows that the means of theory attainment in Microteaching at pre and post treatment stage for both the groups E1 and E2 vary significantly. It can thus be safely stated that training strategies namely Observation-Demonstration-Practice and Demonstration-Practice-Observation are relatively effective in developing the theoretical understanding of Microteaching in B.Ed. student teachers.

B. Comparison of the effectiveness of training strategies Observation-Demonstration-Practice and Demonstration-Practice-Observation in Developing the General Teaching Competence.

Under the objective, the post-treatment General Teaching Competence was used as dependent variable and pre-treatment and post-treatment theoretical understan of Microteaching as covariates separately. The summar of ANCOVA is presented in Table 3.3 and 3.4.

TABLE 3.3 SUMMARY OF ANCOVA FOR GENERAL TEACHING COMPETENCE (PRE-TREATMENT THEORETICAL UNDERSTANDING M.T. AS A COVARIATE)

Source of Variance	df	$S.S_{YX}$	$M.S.S_{YX}$	F.Value
Between	1	221.37	221.37	0.864
Within	29	7425.01	256.03	
Total	30	7646.38		

TABLE 3.4 SUMMARY OF ANCOVA FOR GENERAL TEACHING COMPETENCE (POST-TREATMENT THEORETICAL UNDERSTANDING OF M.T.AS A COVARIATE)

Source of Variance	df	$S.S._{YX}$	$M.S.S._{YX}$	F Value	Significance
Between	1	252.74	252.74	1.12	Not Significant
Within	29	6502.41	224.22		
Total	30	6755.20			

From Tables 3.3 and 3.4 it is evident that the F Values of 0.864 and 1.12 are not significant even at .05 level of significance. It means the adjusted means of General Teaching Competence of E1 (ODP) and E2 (DPO) do not very significantly. Thus the general teaching competence developed by training strategies namely Observation-Demonstration-Practice and Demonstration-Practice-Observation do not differ significantly.

C. Comparison of the effectiveness of training strategies Observation-Demonstration-Practice and Demonstration-Practice-Observation in developing the attitude of B.Ed. student teachers towards teaching

Under the objective the post-treatment attitude of B.Ed. students was treated as dependent variable, while pre-treatment attitude score was taken as covariate. The data were analysed by using Analysis of Covariance. The summary of ANCOVA is presented in the Table 3.5.

TABLE 3.5 SUMMARY OF ANCOVA FOR ATTITUDE TOWARDS TEACHING

Source of Variance	df	$S.S_{YX}$	$M.S.S_{YX}$	F Value	Significance
Between	1	49.34	49.34	1.67	Not Significant
Within	29	856.62	29.53		
Total	30	905.97			

Table 3.5 shows that F value of 1.67 is not significant at .05 level. It indicates the adjusted means of attitude scores of Group E1 and E2 at post-treatment stage are not significantly different. Thus the B.Ed. student teachers treated with Observation-Demonstration-Practice and Demonstration-Practice-Observation Training strategies do not vary significantly when pre-treatment attitude towards teaching was considered as a covariate. Thus it can be concluded that there is no significant difference between the adjusted means of post-treatment attitude scores towards teaching of groups E1 (ODP) and E2 (DPO) when pre-treatment attitude score are considered as a covariate.

The effectiveness of each of the training strategy in terms of attitude towards teaching was studied by finding out the correlated 't' value between the mean attitude score at pre-treatment stage and post-treatment stage for both the groups. The result obtained is presented in the Table 3.6.

TABLE 3.6 't' VALUE FOR ATTITUDE TOWARDS TEACHERS

Variable	Group E1	Group E2
1. Mean of pre-test	107.11	108.00
2. Mean of post-test	109.76	112.60
3. Correlation between pre and post-treatment scores	.147	.812
4. S.E. of pre-test scores	1.61	2.58
5. S.E. of post-test scores	0.50	1.62
6. Value of Correlated 't'	1.30	2.98**

** Significant at .01 level

Table 3.6 shows that the correlated 't' value of 1.30 is not significant at .05 level while the correlated 't' value of 2.98 is significant at .01 level. These results show that the training strategy of Observation-Demonstration-Practice is not significantly effective in developing the attitude towards teaching of B.Ed. student teachers. However, it is fairly evident from the result that the training strategy of Demonstration-Practice-Observation is significantly effective in developing the attitude towards teaching of B.Ed. student teachers.

D. Comparison of the effectiveness of training strategies Observation-Demonstration-Practice and Demonstration-Practice-Observation in Developing the Attitude of B.Ed. student teachers towards Microteaching

For the objective of the study the post-treatment scores of attitude towards Microteaching were used as the dependent variables and the pre-treatment scores of attitude towards Microteaching were considered as covariate. The data were analysed by using Analysis of Covariance. The summary of ANCOVA is given in Table 3.7.

TABLE 3.7 SUMMARY OF ANCOVA FOR ATTITUDE TOWARDS MICROTEACHING

Source of Variance	df	$S.S_{YX}$	$M.S.S_{YX}$	F Value	Significance
Between	1	55.27	55.27	0.658	Not Significant
Within	29	2434.66	83.95		
Total	30	2489.93			

It is seen from the Table 3.7 that the F value of 0.658 is not significant even at .05 level of significance. This indicates that the adjusted means of attitude towards Microteaching scores of groups E1 and E2 do not vary with each other significantly when pre-treatment attitude towards Microteaching scores were considered as a covariate.

In the light of this result, it may be stated that there is no significant difference between the adjusted means of post-treatment attitude towards Microteaching of groups E1 (ODP) and E2 (DPO) when pre-treatment attitude towards Microteaching scores were considered as a covariate.

The effectiveness of the training strategies Observation-Demonstration-Practice and Demonstration-Practice-Observation in terms of attitude towards Microteaching of B.Ed. was studied by obtaining correlated 't' value between the means of pre and post-treatment attitude scores of both the groups E1 and E2. The results obtained are presented in Table3.8

TABLE 3.8 't' VALUE FOR ATTITUDE TOWARDS MICROTEACHING

Variable	Group E1 (N=17)	Group E2 (N=15)
1. Mean of pre-test	157.64	164.26
2. Mean of post-test	162.64	163.60
3. Correlation between pre and post-scores	0.65	0.38
4. S.E. of pre-test scores	2.40	2.72
5. S.E. of post-test scores	2.93	2.26
6. Value of Correlated 't'	2.20*	0.24

* Significant at .05 level

It may be observed from the Table 3.8 that the correlated 't' values of 2.20 is significant at .05 level. It shows that the means of attitude toward Microteaching scores at pre and post-treatment stages of B.Ed. student teachers treated with Observation-Demonstration-Practice training strategy, are significantly different. On the basis of this finding, it can be stated that the Observation-Demonstration-Practice strategy is significantly effective in developing the attitude towards Microteaching of B.Ed. student teachers.

The correlated 't' value of 0.24 which is not significant even at .05 level shows that the means of attitude towards Microteaching at pre-treatment and post-treatment stage of group E2 do not vary significantly. In the light of this result, it can be said that Demonstration-Practice-Observation strategy is not significantly effective in developing the attitude towards Microteaching of B.Ed. student teachers.

SECTION IV

CONCLUSIONS, IMPLICATIONS AND SUGGESTIONS

Introduction

Existing teacher education is considered a weaker link in the education system. It suffers from several deficiencies. There is appalling gap between theory and practice. It is heavily loaded with theory courses and student teaching programme does not develop required level of teaching competencies in the student teachers. One of the ways to overcome this weakness is to strengthen the student teaching programme. Microteaching is an innovation which is designed and tried out towards this end.

This section presents the conclusions drawn from the findings, implications of the study and suggestions for further research in the area of training technology.

Conclusions

On the basis of the results of the present study following conclusions are drawn:

1. Both the training strategies namely Observation-Demonstration-Practice and Demonstration-Practice-Observation are significantly effective in developing the theoretifal understanding of Microteaching in B.Ed. student teachers. However, there is no significant difference in the size of effects occurred due to both the training strategies in terms of theoretical understanding of Microteaching.

2. Both the training strategies namely Observation-Demonstration-Practice and Demonstration-Practice-Observation do not differ significantly in terms of general teaching competence attained by the B.Ed. student teachers.

3. The training strategy of Observation-Demonstration-Practice is not significantly effective in developing favourable attitude towards teaching in B.Ed. student teachers while the Demonstration-Practice-Observation strategy is significantly effective in developing the attitude towards teaching in B.Ed. student teachers. However, the post-treatment mean of attitude scores of both the groups does not differ significantly.

4. The training strategy namely Observation-Demonstration-Practice is significantly effective in developing the favourable attitude towards Microteaching of B.Ed. student teachers but training strategy of Demonstration-Practice-Observation is not significantly effective in developing their attitude towards Microteaching. The post-treatment mean of attitude scores of both the groups does differ significantly.

Implications

Researches conducted in India and abroad have proved, beyond doubt, the effectiveness of Microteaching as a technique of teacher training. It is decidedly superior to conventional programme in developing teaching skills and preparing better teachers (Singh, 1974). It has been found that Microteaching is most suitable for teacher training programme since it increases awareness of the use of specific acts and techniques greater insight into the activity and inter-relationship of children within the classroom. It also developes greater awareness of the problem of structuring and pacing in their teaching (Good Kind, 1968).

Initiative learning is probably a characteristic of human nature and behaviour modification is possible entirely through imitation. The importance of observation technique lies in the fact that new responses may either be learned or characteristic of existing responses may be changed as a function of observing the behaviour of others. Studies dealing with modelling technique and observation of classroom teaching have been in search of preparation for good teachers. Several researchers have concluded that perceptual modelling is more effective than symbolic modelling in developing teaching competence of student teachers. Borg et. al. (1970) found that for bringong about significant changes in teacher's questioning behaviour, perceptual model bears little extra cost than symbolic model but most people would see demonstration of teaching skills rather than first read about them.

During demonstration either with Video film or live, th student teacher observers demonstrated behaviour and notes important behaviours of the skill and tries to acquire certain behaviours through practice. Thus in demonstration strategy, student teacher learns through observation and during practice he tries to exhibit all demonstrated behaviours and refines them through continuous practice.

In the present study, the Video demonstration whether done prior to observation of real classroom teaching or followed by it, is found significantly effective. It is therefore, recommended that both the training strategies: Demonstration-Practice-Observation and Observation-Practice-Demonstration can be tried and implemented for enhancement of teacher training programme.

Reactions and Attitude

Favourable reactions and positive attitude towards an innovation is necessary for its acceptance. Acceptance is basic to implementation and institutionalisation of any educational innovation. Studies have shown that Microteaching arouses favourable reactions towards itself as a result of trying out this innovation.

The present study has shown that both the training strategies, having variation in sequencing of Demonstration with Observation and Practice, develop favourable attitude towards teaching in student teachers. However, the training strategy having the specific sequence: Observation Demonstration-Practice, is significantly effective in developing favourable attitude towards the innovative technique of Microteaching. The student teacher through observation of Video film realises that practice of single skill of teaching provides good basis for its better understanding and acquisition of the competence. It is therefore, suggested that for securing positive attitude of student teachers towards Microteaching, the training strategy with Observation followed by Video Demonstration and practice in teaching may be adopted as part of teacher training programme.

Further Research

The present study has also shown that both the training strategies are equally effective in developing in student teachers theoretical understanding of Microteaching; general teaching competence; and favourable attitude towards teaching. However further researches may be undertaken to study relative effectiveness of these strategies with regard to the extent of retention and transfer of the acquisition of competence in the appropriate use of teaching skills to the real classroom situation. It would also be interesting and worthwhile to study the change in achievement of the pupils who have been taught by those teachers trained through Microteaching techniques.

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Annexure

CENTRE OF ADVANCE STUDY IN EDUCATION, FACULTY OF EDUCATION,
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BROAD GENERAL TEACHING COMPETENCE SCALE

Name of the student teacher ....
Roll No.......... Class to be taught......................
Topic ....Date ....
Time Duration...

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not at all. very much

PLANNING (Pre-instructional)

1. Objectives of the lesson were appropriate: clearly stated, related to the content, adequate and attainable. 0 1 2 3 4 5 6 7
2. Content selected was appropriate: relevant, and adequate with respect to the objectives of the lesson. 0 1 2 3 4 5 6 7
3. Content selected was properly organised: logical continuity and psychological organization. 0 1 2 3 4 5 6 7
4. Audio-visual material chosen were appropriate: suited to the pupils and content, adequate and necessary for attaining the objective. 0 1 2 3 4 5 6 7

PRESENTATION

5. Lesson was introduced effectively and pupils were made ready emotionally and from knowledge point of view to receive new lesson: continuity in statements of questions, relevence, use of previous knowledge and use of appropriate. 0 1 2 3 4 5 6 7

6. Questions were appropriate: well structured properly put, adequate in number, and made pupils participation. 0 1 2 3 4 5 6 7

7. Critical awareness was brought about in pupils with the help of probing questions: prompting, seeking further information, refocussing, redirection, and increasing critical awareness. 0 1 2 3 4 5 6 7

8. Concepts and principles were explained (understanding brought about) with the help of clear inter-related and meaningful statements: statements to create set, to conclude, statements which had relevance, continuity, appropriate vocabulary, explaining links, fluency, and had no vague words and phrases. 0 1 2 3 4 5 6 7

9. The concepts and principles were illustrated with the help of appropriate examples through appropriate media (verbal and nonverbal): simple, relevant to the content and interest level of students. 0 1 2 3 4 5 6 7

10. Pupils 'attention was secured and maintained by varying stimuli like movements, gestures, changing speech pattern, focussing, changing interaction styles, pausing, and oral-visual switching: pupils' paustures and listening, observing and responding behaviour of pupils. 0 1 2 3 4 5 6 7

11. Deliberate silence and non-verbal cues were used to increase pupil participation. 0 1 2 3 4 5 6 7

12. Pupils' participation (responding and initiating) was encouraged using verbal and non-verbal reinforcers. 0 1 2 3 4 5 6 7

13. Speech of presentation of ideas was appropriate: matched with the rate of pupils' understanding and there was proper budgetting of time. 0 1 2 3 4 5 6 7

14. Pupils participated in the classroom and responded to the teacher and initiated by giving their own ideas and reacting to others' ideas. 0 1 2 3 4 5 6 7

15. The blackboard work was good: legible, neat, appropriate to the content written and adequate. 0 1 2 3 4 5 6 7

CLOSING

16. The closure was achieved appropriately: main points of the lesson were consolidated, present knowledge was linked with the past knowledge, opportunities were provided for applying present knowledge and was linked with learning assignment. 0 1 2 3 4 5 6 7

17. The assignment given to the pupils was appropriate: suited to individual differences, relevant to the content taught and adequate. 0 1 2 3 4 5 6 7

EVALUATION

18. Pupils' progress towards the objectives of the lesson was checked and procedures of the evaluation were appropriate: relevant to the objectives, valid reliable and objective. 0 1 2 3 4 5 6 7